

UNESCO SCIENCE REPORT

The race against
time for smarter
development

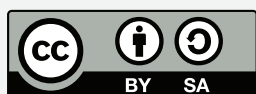
Essay: The integration of
refugee and displaced scientists
creates a win-win situation



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The integration of refugee and displaced scientists creates a win–win situation

Peter F. McGrath and Edward W. Lempinen

A global challenge

Worldwide, every two seconds, someone is forcibly displaced from their home by conflict or persecution, according to the United Nations Refugee Agency (UNHCR). There are currently some 79.5 million displaced persons in the world, the highest number on record. Of these, 45.7 million are internally displaced, 26.0 million are officially classed as refugees and another 4.2 million are asylum-seekers. Five countries account for 68% of all refugees: Syria (6.6 million), Venezuela (3.7 million), Afghanistan (2.7 million), South Sudan (2.2 million) and Myanmar (1.1 million) [UNHCR, 2020].

The scientific communities in these countries have been deeply affected by war, repression and dislocation. Consider Syria. Before the outbreak of civil war in 2011, Syria had scientific, medical and engineering institutions that were among the most respected and influential in the Arab region but, by 2015, the Syrian civil war had provoked perhaps the largest human migration seen since the Second World War.

By this time, Syria counted 340 researchers (in head counts) per million inhabitants, according to the UNESCO Institute for Statistics. A rough calculation, therefore, suggests there could be more than 2 200 researchers among the 6.6 million Syrian refugees. This figure most likely excludes trained medical personnel and PhD students.

Indeed, the Covid-19 crisis in Europe, and the concomitant urgent need for more trained medical personnel, has shone a spotlight on the 14 000 Syrian doctors living in Germany alone who are waiting for their qualifications to be approved (Connolly, 2020).

It is not only outbreaks of violence that compel people to flee their homes. Venezuela, for example, once had a vibrant research sector but has witnessed socio-economic and political instability that has propelled more than five million Venezuelans – almost 20% of the population – out of the country, as of 2020.¹ This exodus began more than a decade ago but it surged in 2015 and is still ongoing as conditions deteriorate. By one estimate, Venezuela counted an estimated 12 850 researchers in 2014 but only about 3 000 remained a few years later (Bolaños-Villegas *et al.*, 2020).

According to a personal communication by Gioconda San-Blas, former president of the Venezuelan Academy of Physical, Mathematical and Natural Sciences, major Venezuelan universities have lost around 45% of their academic staff. This brain drain caused the country's scientific productivity to nosedive from 1 695 to 1 091 publications between 2014 and 2019 (see chapter 7).

Scientific expertise must not go to waste

It is the considered view of UNESCO and like-minded organizations that both the global scientific community and

governments have a strong interest in understanding the experience of displaced scientists and supporting them, to ensure that their skills and training do not go to waste. To be effective, scientists, engineers and medical doctors must stay abreast of advances in their field. Time spent in refugee camps, travelling to and settling in new countries, perhaps caring for families and taking on menial jobs to ensure a basic income, all detract from the exigencies of a scientific career.

Governments and other stakeholders must be able to identify highly trained individuals rapidly and integrate them in universities, research institutions, teaching hospitals and private enterprises. In so doing, host countries will serve their own interests while enabling displaced scientists to preserve and develop their expertise and live in dignity until conditions improve enough for them to return home – for many of them will, ultimately, return to their countries of origin, where their expertise will be needed to help rebuild their societies.

No-one knows the numbers

The problem is that nobody is keeping track of precisely how many refugee and displaced scientists there are and their whereabouts, including in the top five host countries, in descending order: Turkey, Colombia, Pakistan, Uganda and Germany.

To address this issue, and as a contribution to Sustainable Development Goal 8 of achieving 'sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all', an expert group set up by the European Union and the United Nations in 2018 has recommended the use of indicators that identify the sector or industry of employment of refugees and which recognize foreign qualifications in the host country.

Without such a system, however, there can only be estimates. One such estimate puts the number of refugee and displaced scientists above the 10 000 mark (Treacy, 2017), although this figure is probably conservative, as it does not include the more recent exodus of scientists from Turkey and Venezuela.

It is clear, however, that thousands of scientists, medical professionals and advanced students of science and engineering in war-torn countries endure dislocation and insecurity. Even when they flee to the anticipated safety of a new homeland, the insecurity continues, owing to their often precarious status.

Given the nature of specialist training in science, engineering and medicine, each qualified individual represents a significant investment by their home country. This is especially true for least developed countries such as Afghanistan, Myanmar, Somalia, South Sudan, Yemen and others affected by an exodus of scientific expertise. These

trained individuals represent national assets in short supply whose loss can seriously compromise national priorities and the training of the next generation.

Support structures do exist

Support structures for refugee and displaced scientists do exist, often in parallel with support structures for scientists and other academics suffering from persecution.

One such programme is the Institute of International Education's Scholar Rescue Fund. It has supported more than 880 scholars from 60 countries since its inception in 2002. Data provided by the institute attest to the growing problem of refugee and displaced scientists: the programme has received more applications in every successive year since 2017. In 2019, one-third of applications came from Yemen, a 58% increase over 2018. Also listed in the top five were Cameroon, Syria, Turkey and Venezuela. Applications from each of Cameroon and Venezuela even doubled between 2018 and 2019.

Likewise, Scholars at Risk, founded in 2000 at the University of Chicago (USA), provides sanctuary and assistance to more than 300 threatened scholars worldwide each year by arranging temporary academic positions at member universities and colleges among its network.

In the UK, the roots of the non-governmental organization, the Council for At-Risk Academics (CARA) go back to 1933 and the expulsion of many leading academics from Germany's universities by the Nazis. CARA focuses uniquely on helping those who are in immediate danger, rather than those already in exile, providing them with two- or three-year stipends and helping to place them in one of the 120 British universities within its network.

The Alexander von Humboldt Foundation's Philipp Schwartz Initiative provides universities and research institutions in Germany with the means to host threatened foreign researchers for a period of 24 months on fully funded research fellowships. The initiative is funded by the German Federal Foreign Office, with additional support from other foundations. In this case, researchers cannot apply on an individual basis but must do so in tandem with a research-performing institution based in Germany.

Many German universities also provide support for refugee students wishing to pursue their studies, often through volunteer student groups that provide mentoring, language training, counselling and other services.

In France in 2017, the government initiated the National Programme for the Urgent Reception of Scientists in Exile (*Programme national d'aide à l'accueil en urgence des scientifiques en exil*, PAUSE), with the support of civil society and financial partners. Its mission is 'to accommodate and protect researchers from countries in which the political situation places their work and their families in danger.' PAUSE provides long-term support for such scholars to help them integrate into French society and the research community.

One of the most recent initiatives is the Refugees in Science programme, which was launched in the Netherlands in 2018. During the shaping of the programme and the drafting of the initial call, the idea of 'positive discrimination' was addressed

via a careful communication strategy designed to defuse any political sensitivity around the term. As part of this strategy, it was made clear that the programme was not offering charity but, rather, a way to empower scholars who felt a responsibility towards their new society but were not yet in a position to assume that responsibility.

In its first year of operation, the Refugees in Science programme, funded via a € 750 000 contribution from the Dutch Research Council (NWO), supported 12 individuals with one-year fellowships. After a review of this pilot phase, it seems that the programme (now renamed Hestia) will run for at least two more years (KNAW, 2019).

The European Union (EU) as a whole has a common policy to attract scientific talent to the bloc's laboratories and research centres. This is facilitated by a scientific visa for eligible candidates. During the final year of negotiations with the EU over its withdrawal from the bloc (Brexit), the UK instituted its own scientific visa system.

The European system is facilitated by the web-based EURAXESS platform, as well as EURAXESS Services, a network of more than 500 service centres located in 40 European countries. These centres help researchers and their families to plan and organize their move to a particular country within the bloc, assisting with issues such as accommodation, visas and work permits, language lessons, schools for any children, social security and medical care.

Embedded within EURAXESS is Science4Refugees, a platform established 'to help refugee scientists and researchers find suitable jobs that both improve their own situation and put their skills and experience to good use in Europe's research system.'

Science4Refugees enables suitably qualified refugees with asylum status to link with positions available at EU-based universities and research institutions. It also provides a mentoring system called Science4Refugees Research Buddies and a newsletter, *Bridges*, providing up-to-date news and information. However, refugee scientists participating in Science4Refugees must also compete with other applicants in an open competition for each position.

In recent years, it has become more difficult for scientists from affected countries to access positions at universities and research centres in the USA. President Donald Trump's Executive Order 13780 of February 2020 banned all travel to the USA by nationals of the Democratic People's Republic of Korea and Syria, as well as nationals of Eritrea, Iran, Kyrgyzstan, Libya, Myanmar, Nigeria, Somalia, Sudan, Tanzania, Venezuela and Yemen, with various exceptions.

Little attempt by developing countries to attract displaced scientists

Whereas most refugee and displaced scientists eye the high-income countries of the Organisation for Economic Co-operation and Development (OECD), some turn towards lower-income countries which are investing more in scientific research than they did previously. For example, The World Academy of Sciences (TWAS), a programme unit of UNESCO, is aware of scientists who have made their way to countries such as Malaysia and South Africa.

Despite their stated aim of attracting scientific talent, there would not seem to be any specific policy in lower-income countries for assisting refugee and displaced scientists. In the case of South Africa, they must go through the same process of validation as other refugees and asylum-seekers, which may take time. Once their work permit has been approved, they may take any job for which they have the requisite qualifications, including research and teaching positions or the practice of medicine. In theory, they could also work with an initial permit while awaiting confirmation of validation but employers are often reluctant to take the risk of hiring an individual whose application for a work permit may yet be refused.

It is clear from this brief overview that a number of countries and organizations are actively supporting refugee and displaced scientists – and this is just a selection.

However, it should also be apparent that, despite a growing tendency towards collaboration, such programmes remain scattered and fragmented, varying widely in scale from country to country.

There is, for example, no formal mechanism for taking the lessons learned from one successful initiative and replicating them more broadly. Even so, the scientific community in the Netherlands was able to refer to effective programmes run in Belgium and Germany, thereby helping to convince the Dutch authorities to establish the programme now known as Hestia.

In addition, although such programmes do provide much-needed support for refugee and displaced scientists in the short term (typically 1–2 years), the status of many remains profoundly insecure. Once a first fellowship or placement is complete, opportunities for follow-on support are largely lacking, even if the situation in their home country has not changed and it is not yet safe to return. Indeed, the latest report by the United Nations High Commissioner for Refugees confirms that, despite record numbers of displaced persons, fewer are able to return home than previously, leaving them in limbo for years (UNHCR, 2020).

A willingness to do more

A March 2017 workshop revealed a broad willingness to do more to assist refugee and displaced scientists. The workshop was run by TWAS, the Euro-Mediterranean University and the Italian *Istituto nazionale di oceanografia e di geofisica sperimentale* (OGS).

The event brought together more than 50 participants from 12 countries, including policy-makers, representatives of scientific and educational institutions and refugee agencies. Also attending were half a dozen current or former refugee scientists.

The workshop produced a series of practical recommendations for different sectors of society (TWAS, EMUNI and OGS, 2017). In particular, it recommended that host governments:

- accelerate approval of applications for visa and asylum to facilitate the social and professional integration of scientists;
- offer employment and career counselling;

- establish a focal point or welcome office that can guide and advise newly arrived scientists; and
- develop an Internet-based clearing house that collects available opportunities for affected scientists and allows affected scientists to post their biodata and research interests for browsing by host institutions.

It also recommended that research funding agencies:

- establish grant programmes (with rapid processing times) to help universities, research centres, teaching hospitals and other science-related institutions to employ qualified scientists with a level of remuneration enabling them to support their families; and
- provide ring-fenced funds for joint academic projects involving refugees and other displaced scientists.

The workshop also recommended motivating international donors and development banks and other funding entities to help rebuild and invest in the type of scientific and research infrastructure that would be essential to encourage the return of qualified personnel to their home countries, once it was safe for them to do so, thereby stimulating brain circulation rather than brain drain (TWAS, EMUNI and OGS, 2017).

Mass migration is here to stay

In sum, mass migration cannot be treated as a temporary or emergency phenomenon. Rather, it is likely to be a permanent feature of globalization and geopolitical instability.

There may also be situations caused by natural and human-made disasters requiring the evacuation beyond national borders of researchers and other academics who would again need assistance prior to returning home.

Indeed, more slowly unfolding environmental disasters such as prolonged droughts, land degradation and food scarcity – caused or exacerbated by climate change – are causing people to move in search of better lives. According to one estimate (Defrance, 2017), tens or even hundreds of millions of people could be forced to leave the Sahel region of West Africa by the end of this century owing to climate change and the related problems of water and food scarcity.

For these reasons, a holistic, cross-sectoral, global response is required.

The workshop document also proposed that international organizations should come together to organize a major conference on refugee and displaced scientists, to help formulate an effective and co-ordinated global response. Indeed, the document also proposed the establishment of an Intergovernmental Panel on Refugee Academics that could keep the situation under regular review and update recommendations as required (TWAS, EMUNI and OGS, 2017).

Only with such a co-ordinated and integrated response will it be possible to address the situation of refugee and displaced scientists in a sustainable way, allowing countries to get ahead of the curve rather than reacting in a permanent state of emergency.

In this regard, it is encouraging to see that three major international scientific organizations – TWAS, the

InterAcademy Partnership and the International Science Council – are now addressing this issue, with funding from the Swedish International Development Cooperation Agency (Sida). These bodies are planning to develop a strategy to ensure implementation of the recommendations contained in the workshop document (TWAS, 2020).

The scientific community can take the lead on this issue by serving as a model for what must be a co-ordinated, holistic response. In fact, we would argue that the global scientific community is duty-bound to do more for its vulnerable colleagues.

Peter F. McGrath (b. 1962: UK) is Co-ordinator of the InterAcademy Partnership and the TWAS Science Policy/Science Diplomacy programme. Dr McGrath obtained a PhD in Applied Biology from the University of Leeds (UK).

Edward W. Lempinen (b. 1956: USA) is a writer and media relations specialist at the University of California, Berkeley (USA) and former public information officer for The World Academy of Sciences (TWAS) in Trieste, Italy. He holds a Master's degree in public affairs journalism from the University of Illinois-Springfield (USA).

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ENDNOTE

- 1 See: <https://r4v.info/es/situations/platform>

UNESCO SCIENCE REPORT

The race against time for smarter development

It is striking how development priorities have aligned over the past five years. Countries of all income levels are prioritizing their transition to digital and 'green' economies, in parallel. This dual transition reflects a double imperative. On the one hand, the clock is ticking for countries to reach their Sustainable Development Goals by 2030. On the other, countries are convinced that their future economic competitiveness will depend upon how quickly they transition to digital societies. The UNESCO Science Report's subtitle, 'the race against time for smarter development', is an allusion to these twin priorities.

This seventh edition of the report monitors the development path that countries have been following over the past five years from the perspective of science governance. It documents the rapid societal transformation under way, which offers new opportunities for social and economic experimentation but also risks exacerbating social inequalities, unless safeguards are put in place.

The report concludes that countries will need to invest more in research and innovation, if they are to succeed in their dual digital and green transition. More than 30 countries have already raised their research spending since 2014, in line with their commitment to the Sustainable Development Goals. Despite this progress, eight out of ten countries still devote less than 1% of GDP to research, perpetuating their dependence on foreign technologies.

Since the private sector will need to drive much of this dual green and digital transition, governments have been striving to make it easier for the private sector to innovate through novel policy instruments such as digital innovation hubs where companies can 'test before they invest' in digital technologies. Some governments are also seeking to improve the status of researchers through pay rises and other means. The global researcher population has surged since 2014.

The Covid-19 pandemic has energized knowledge production systems. This dynamic builds on the trend towards greater international scientific collaboration, which bodes well for tackling this and other global challenges such as climate change and biodiversity loss. However, sustainability science is not yet mainstream in academic publishing, according to a new UNESCO study, even though countries are investing more than before in green technologies.

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